

I CLAIM:

1. An automotive wheel assembly removal apparatus adapted to be connected to a rim mounting surface of an automotive wheel assembly and operative to remove the wheel assembly from a vehicle chassis, comprising:

a slide hammer assembly for creating an operational impact load and incorporating a hammer secured to a hollow slide tube received on a slide shaft, the slide shaft having a distal hammer stop and being formed with a support extension projecting from the stop, the slide shaft also being formed at a proximal end with a coupler; and

an interchangeable rotor securing tool releasably mounted to the coupler and formed with a plurality of engagement hole patterns, each of the patterns including at least two respective engagement holes that are adapted to receive at least two engagement members.

2. The apparatus according to Claim 1, wherein at least one of the plurality of engagement hole patterns is selected from the group including (a) a four engagement hole pattern adapted to mate with at least one OEM component engagement pattern, (b) a six engagement hole pattern adapted to mate with at least one OEM six lug pattern, and (c) an eight engagement hole pattern adapted to mate with at least one OEM eight lug pattern.

3. The apparatus according to Claim 1, wherein the interchangeable rotor securing tool is formed with a five engagement hole pattern of the plurality of engagement hole patterns and is adapted to mate with at least one OEM five lug pattern.

4. The apparatus according to Claim 1, further comprising:

a dual hand operation mechanism including at least one hammer handle.

5. The apparatus according to Claim 1, wherein the interchangeable rotor securing tool is adapted to be coupled to the rim mounting surface to establish a distributed load transfer interface with the automatic wheel assembly whereby the operational impact load is substantially uniformly transferred to the rim mounting surface.

6. The apparatus according to Claim 1, further comprising:

a releasably engagable retainer assembly that includes at least one fastener adapted to be received by the vehicle chassis and to loosely retain the wheel assembly to the vehicle chassis during operation of the removal apparatus.

7. The apparatus according to Claim 6, wherein the at least one fastener is selected from the group including a retainer bolt, an expandable bolt, a locking shear pin, a flexible strap, and combinations thereof.

8. The apparatus according to Claim 6, wherein the at least one fastener includes at least one flexible and adjustable retainer device.

9. The apparatus according to Claim 6, including at least one storage holder for storing the retainer assembly during non use.

10. An automotive wheel assembly removal apparatus adapted to be connected to a rim mounting surface of an automotive wheel assembly and operative to remove the wheel assembly from a vehicle chassis, comprising:

a slide hammer assembly for creating an operational impact load and incorporating a hammer secured to a hollow slide tube received on a slide shaft, the slide shaft having a distal hammer stop and being formed with a support extension projecting from the stop, the slide shaft also being formed at a proximal end with a coupler;

a dual hand operation mechanism including at least one hammer handle secured to the slide hammer assembly;

an interchangeable rotor securing tool releasably mounted to the coupler and formed with a plurality of engagement hole patterns, each of the patterns including at least two respective engagement holes that are adapted to receive at least two engagement members; and

a releasably engagable retainer assembly that includes at least one fastener adapted to be received by the vehicle chassis and to loosely retain the wheel assembly during removal from the vehicle chassis.

11. The apparatus according to Claim 10, wherein at least one of the plurality of engagement hole patterns is selected from the group including (a) a four engagement hole pattern adapted to mate with at least one OEM component engagement pattern, (b) a six engagement

hole pattern adapted to mate with at least one OEM six lug pattern, and (c) an eight engagement hole pattern adapted to mate with at least one OEM eight lug pattern.

12. The apparatus according to Claim 10, wherein the interchangeable rotor securing tool is formed with a five engagement hole pattern of the plurality of engagement hole patterns and is adapted to mate with at least one OEM five lug pattern.

13. The apparatus according to Claim 10, wherein the interchangeable rotor securing tool is adapted to be coupled to the rim mounting surface to establish a distributed load transfer interface with the automatic wheel assembly whereby the operational impact load is substantially uniformly transferred to the rim mounting surface.

14. The apparatus according to Claim 10, wherein the at least one fastener is selected from the group including a retainer bolt, an expandable bolt, a locking shear pin, a flexible strap, and combinations thereof.

15. The apparatus according to Claim 10, wherein the at least one fastener includes at least one flexible and adjustable retainer device.

16. The apparatus according to claim 10, including at least one storage holder for storing the retainer assembly during non use.

17. A means for removing an automotive wheel assembly from a vehicle chassis,
comprising:

a means for generating linear momentum;

a means for slidably receiving the momentum generating means;

5 a means for linearly transferring the momentum of the momentum generating means to
the receiving means, the transferring means being formed at a distal end of the receiving means;

a means for supporting the receiving means projecting distally from the transferring
means;

a means for proximally coupling the receiving means and being carried therefrom;

10 an interchangeable means for imparting the linear momentum to the wheel assembly, the
interchangeable means being releasably attached to the coupling means; and

a means for releasably retaining the removing means to the wheel assembly during
operation.

15 18. A means for removing an automotive wheel assembly from a vehicle chassis
according to Claim 17, wherein the interchangeable means is further formed to include a means
for engagingly mating with at least one respective OEM component engagement pattern.

20 19. A means for removing an automotive wheel assembly from a vehicle chassis
according to Claim 17, wherein the linear momentum generating means is further formed to
include a means for facilitating hand operation of the linear momentum generating means.

20. A means for removing an automotive wheel assembly from a vehicle chassis according to Claim 17, wherein the interchangeable means is adapted to establish a distributed load transfer interface with the automotive wheel assembly whereby a substantial portion of the linear momentum is uniformly transferred to the wheel assembly.

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21. A means for removing an automotive wheel assembly from a vehicle chassis according to Claim 17, wherein the releasably retaining means includes at least one means for fastening adapted to be received by a vehicle chassis and to loosely retain the wheel assembly to the vehicle chassis during removal.

22. A means for removing an automotive wheel assembly from a vehicle chassis according to Claim 21, wherein the at least one means for fastening is selected from the group including a retainer bolt, an expandable bolt, a locking shear pin, a flexible strap, and combinations thereof.

23. A means for removing an automotive wheel assembly from a vehicle chassis according to Claim 21, wherein the at least one means for fastening includes at least one flexible and adjustable retainer device.

20 24. A means for removing an automotive wheel assembly from a vehicle chassis according to Claim 17, further including a storage means for storing the releasably retaining means during non-use.